



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,979	06/14/2005	Junichi Yoshinaga	981045.90037	9469
26707	7590	09/12/2006	EXAMINER	
QUARLES & BRADY LLP RENAISSANCE ONE TWO NORTH CENTRAL AVENUE PHOENIX, AZ 85004-2391			MATHEWS, ALAN A	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

51

Office Action Summary	Application No. 10/538,979	Applicant(s) YOSHINAGA, JUNICHI	
	Examiner Alan A. Mathews	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10, 14-16, 18, 20, 21, 23, 25, 26, 30 and 31 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 11-13, 17, 19, 22, 24, 27-29 and 32-34 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/14/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 18 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18, which depends on independent claim 14, states that the pattern of the mask of the second optical station comprises a **second ring**. But no first ring has been recited in the claims, leading to confusion as to why there is a second ring without a first ring. If claim 18 were amended to depend on claim 17, the indefiniteness would be corrected. Similarly, claim 23 states that the pattern of the second mask comprises a **second ring**. But no first ring has been recited in the claims, leading to confusion as to why there is a second ring without a first ring. If claim 23 were amended to depend on claim 22, the indefiniteness would be corrected. It is noted that claim 5 (with a second ring) was made to depend on claim 4 (with a first ring), thus avoiding any 112 problems.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2851

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 9, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Bjorklund et al. (U. S. Patent No. 6,707,534). Figures 1 and 2 and column 4, lines 55 – 67, and columns 5 and 6, discloses a mask 2 for receiving light and passing the light to the surface of a curved object 1. The lens system 6 is positioned between the mask and the object and is moved (i.e., the focal distance between the lens and the object is variable).

4. Claims 1, 9, and 25 are rejected under 35 U.S.C. 102(a) as being anticipated by Klosner et al. (U. S. Patent No. 6,416,908). Klosner et al. discloses in figure 2 a curved object (substrate) 11, and a mask 12 for receiving light and passing the light to the surface of the object. A lens 13 is positioned between the mask and the object and, as seen in figure 2, is moved in the direction of the arrow (i.e., the focal distance between the lens and the object is variable).

5. Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by Taniguchi et al. (U. S. Patent No. 6,304,317, cited in Applicant's IDS). Figure 14 and column 31, lines 14-40, disclose passing light according to a pattern on mask R, directing light through a lens 216 to a surface of a semiconductor device W. The focal distance between the lens 216 and the semiconductor device W is altered.

Art Unit: 2851

6. Claims 1-3, 6-10, 14-16, 20, 21, 25, 26, 30, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Mei et al. (U. S. Patent No. 6,529,262, cited on Applicant's PTO-1449). Mei et al. '262 discloses in figures 1 and 4 and column 3, lines 34-52, an object which is a spherical semiconductor. Column 5, lines 19-27, discloses masks 36a – 36c (mirrors) that pass the light onto object 10. Lens systems 35a, 35b, and 35c **adjust** the patterns so that they are **finely focused** and aligned to their respective regions. Thus, the focal distance is variable. With respect to claim 6, figure 8b and column 7, lines 12 – 18, disclose motors 93a and 93b for moving the object 10 relative to the lens. With respect to claims 14 – 16, 20, 21, 30, and 31, figures 3, 4 and 5 and column 4, lines 36-46, and column 5, lines 27-42, disclose exposing a portion of object 10, then moving object 10, and then exposing a different portion of object 10. Figure 4 is a first station and figure 5 is a second station. The object 10 drops from the first station to a second catcher 50 in the second station..

Allowable Subject Matter

7. Claims 4, 5, 11 – 13, 17, 19, 22, 24, 27-29, and 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 18 and 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2851

The reasons for the indicated allowability of the claims are as follows:

The prior art does not disclose or suggest wherein a pattern of the mask comprises a first ring and a first focal distance is made between the lens and the object to expose the first ring on a first surface area of the object in combination with all the other elements recited in the parent claim to dependent claim 4.

The prior art does not disclose or suggest providing a first ring for the pattern of the mask, and programming a first focal distance between the lens and the object to expose the first ring on a first surface area of the object in combination with all the other steps recited in the parent claim to dependent claim 11.

The prior art does not disclose or suggest wherein the pattern of the mask of the first optical station comprises a first ring in combination with all the other elements recited in the parent claim to dependent claim 17.

The prior art does not disclose or suggest wherein the pattern of the mask of the second optical station comprises a second ring in combination with all the other elements recited in parent claim(s) to dependent claim 18. Note that the 112 problem needs to be corrected.

Art Unit: 2851

The prior art does not disclose or suggest wherein a first object is proximate to the first optical station **while** a second object is proximate to the second optical station in combination with all the other elements recited in the parent claim to dependent claim 19.

The prior art does not disclose or suggest wherein the pattern of the first mask comprises a first ring in combination with all the other steps recited in the parent claim to dependent claim 22.

The prior art does not disclose or suggest wherein the pattern of the second mask comprises a second ring in combination with all the other steps recited in the parent claims to dependent claim 23. It is noted that the 112 problems needs to be corrected.

The prior art does not disclose or suggest wherein a first object is proximate to the first optical station **while** a second object is proximate to the second optical station in combination with all the other steps recited in the parent claim to dependent claim 24.

The prior art does not disclose or suggest providing a first ring for the pattern of the mask; and setting a first focal distance between the lens and the semiconductor device to expose the first ring on a first surface area of the semiconductor device in combination with all the other steps recited in the parent claim to dependent claim 27.

Art Unit: 2851

The prior art does not disclose or suggest wherein the pattern of the first mask comprises a first ring in combination with all the other steps recited in the parent claim to dependent claim 32.

The prior art does not disclose or suggest wherein a first semiconductor device is proximate to the first optical station **while** a second semiconductor device is proximate to the second optical station in combination with all the other steps recited in the parent claim to dependent claim 34.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents cited in the PTO-1449 are cited for the same reasons they were cited in Applicant's IDS.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (571) 272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alan A. Mathews
Primary Examiner
Art Unit 2851

AM